Chapter 3

CONTINUING AND EMERGING ISSUES

This chapter examines the continuing and emerging infrastructure needs of the Commonwealth and explores the reasons for them. There are four major factors that contribute to the need for capital expenditures. They are:

- Increasing and changing demands for state services;
- The need to repair or upgrade major building components due to the general aging of state-owned structures;
- Modifications in building codes and changes in compliance with other federal and state mandates that require significant investment in existing facilities to maintain healthy and safe conditions; and,
- The rapidly changing nature of technology.

This chapter examines these factors and focuses on the trends and conditions that are impacting specific areas of state government, including higher education, corrections, and the state highway system.

Increasing and changing demands for state services

The primary factor contributing to the need for capital expenditures is the public's demand for government services. A growing population with expanding public expectations affects the number and nature of facilities that are needed to support and house the desired services.

Changing demographics -- including increased population, the aging of the general population, and population movement – also influence the demand for services. An expanding population means greater demand for education, hospital, and park facilities. It demands more automobiles, which creates greater demand for highways.

Policy decisions to offer certain programs or services also produce demands that require that new facilities be built or established facilities be renovated to provide those services statewide. Changes in policy

may also require the expansion or modification of facilities. For example, stricter criminal sentencing creates the need for additional facilities to house greater numbers of inmates. Conversely, the policy change to move to community-based mental health and mental retardation services has reduced the number of inpatient mental health hospital and mental retardation training center beds that are required.

Aging infrastructure

The Commonwealth of Virginia owns over 1,085 tracts of land, ranging in size from under an acre to over 58,818 acres. There are over 8,556 buildings located on these properties, with gross square footage in excess of 81.8 million square feet. The average useful life of a typical building, without substantial renovations, is 30 to 40 years. Over a third of the Commonwealth's buildings -- 2,959 -- are over 40 years old.

Aging facilities and the general wear-and-tear that results from their constant use creates a continuing demand for capital expenditures. All buildings need routine maintenance and upkeep. As buildings age, major components such as roofs, heating and ventilation systems, and electrical systems must be upgraded or replaced. Crucial system components such as roofs and heating and ventilation systems usually require major repairs or renovations every 15 to 20 years.

Older buildings are costly to maintain and operate. Inefficient building design can contribute to increased heating and electrical costs. It can also increase the costs of the programs housed in the building. For example, an inefficiently designed housing unit for juvenile offenders can create the need for more security staff than would be necessary in a more efficiently designed facility. Some buildings can be renovated to make them cheaper to maintain and operate. Some, however, cannot be improved through renovation and need to be replaced.

As the state's buildings age, the efficiency of the energy-using systems will continue to degrade and, in turn, increase the day-to-day cost of operating these facilities. Old technologies and worn-out equipment, especially that equipment at the end of its useful life, also contribute to the escalating use of energy resources.

The Commonwealth currently spends over $140 million annually to heat, cool, and light state facilities. A significant amount of these recurring expenditures could be reduced by upgrading lighting and HVAC (heating, ventilating, and air conditioning) systems and controls to maximize their efficiency. For each year that an energy retrofit project is delayed, energy continues to be wasted and potential dollar savings are lost to the Commonwealth. Besides reducing present and future operating costs, energy efficiency upgrades can also serve to improve the work environment and customer service. At some point, however, a building reaches the end of its useful life. It cannot be modified for another purpose, or the modifications will cost more than constructing a new facility. The decision to discontinue the use of a building is very difficult. The natural inclination is to think that a tangible asset such as a building must have value and can be used for some purpose. Because of this, buildings sometimes continue to be used and operated at huge cost or are renovated at great cost only to be judged as not suitable for the activities housed in them.

Even when a decision is made to vacate a facility, some costs continue. Minimum maintenance must still be performed even after a building is vacated. In addition to upkeep concerns, empty buildings present health and safety hazards.

The following examples are illustrative of the Commonwealth's aging infrastructure:

> The state's public colleges and universities contain approximately 16 million square feet of instructional space. An estimated 23 percent, or 3.7 million square feet of space at the state's senior institutions, is more than 40 years old. Another 42 percent, or 6.7 million square feet of space, is between 20 and 40 years old.

> The state park system has over 900 buildings in its inventory, exclusive of structures such as picnic shelters and well houses. Approximately one-third of these buildings were constructed during the 1930s. Over half of the state park system's buildings were constructed prior to 1960. In fact, the park

system maintains 22 buildings constructed during the 19th century and three buildings dating from the 18th century. In the past 10 years, approximately 160 buildings have been added to the system as a result of land acquisitions and construction.

> The Department of Corrections has structures that range in age from less than a year to over 100 years. Most are over 30 years old. The newest facilities, Wallens Ridge and Sussex II State Prisons, opened in 1999. The mean age of all corrections buildings is 30 years.

> The Department of Mental Health, Mental Retardation and Substance Abuse Services maintains approximately 400 buildings and structures at 12 geographic locations across the Commonwealth. These buildings range in age from new to over 110 years old with an average age of 42 years. Many of the existing structures were built when the primary treatment of individuals with mental disabilities was to humanely house and care for those citizens with little hope of their returning to active life in the community. Likewise, when these facilities were designed, the cost of staffing was not a major issue due to low wages. In order to meet today's treatment modalities that emphasize active treatment programs, many existing facilities have been inefficiently adapted to fit the required use.

> The Department of Military Affairs maintains 48 armories and 22 logistical and training sites across Virginia. These structures comprise a total of 915,000 net square feet of armory space, 70,000 net square feet of metal storage buildings, and 780,000 net square feet of logistical and training site facilities. The federal, state, and local governments share responsibilities for the armories. The diversity in support is due to the various agreements with the federal and local governments established when the armories were first constructed or occupied. Because of these agreements, the state has fiscal responsibility for routine projects at 24 armories and for major maintenance and repair projects at 38 armories. The federal government's fiscal responsibility goes to seven armories for routine maintenance and major repair.

An armory must be maintained in a constant state of readiness 24 hours a day, seven days a week. Not only are these facilities utilized for National Guard training, but they also function as emergency relief centers during federal, state, and local emergencies. More than half or the state's armories are 25 years or older. Consequently, the costs of maintenance and repair are increasing.

The type of facility that frequently receives the least amount of funding for maintenance and renovation is administrative space. As these buildings have deteriorated and agencies have required more administrative office space, officials have increasingly turned to leasing space. Over time, this can become a costly solution for meeting the state's need for administrative space.

On the other hand, leasing can be cost effective in situations where agencies commonly relocate their sites so they can better provide services. For example, the ABC liquor stores are almost all in leased space so that the stores can continuously be located in the best commercial locations.

As more agencies move administrative functions into leased space, the question of co-location arises. State government needs to assess the costs and benefits of housing several state agencies together. A "critical mass" of state operations may make it less costly to build administrative offices or even to lease an entire building for state operations.

Funding of building and infrastructure maintenance

In recognition of the need to maintain its buildings, the Commonwealth began funding maintenance projects on a continuous basis in the early 1980s. This policy was an acknowledgment that maintenance projects are recurring, unlike most capital outlay projects which are one-time expenditures. Examples of maintenance projects include repairs to or the replacement of roofs; heating, ventilation, and air conditioning systems; electrical systems; steam lines; sanitary sewer systems; elevators; and parking lots.

All agencies with physical plants must now prepare an annual plan, called a maintenance reserve plan, which identifies projects needed to maintain or extend the useful life of existing facilities. Funding for maintenance reserve projects is a supplement to maintenance money provided in an agency's operating

budget. Maintenance reserve funds are included in the capital budget so that any unexpended balances can be carried forward from one biennium to the next -- as opposed to operating funds, which usually revert at the end of a biennium. Typically, each maintenance reserve subproject costs between $25,000 and $500,000.

The need for maintenance reserve projects is always greater than available funds. There has always been a gap between funding requests and funding recommendations since the maintenance reserve program began. For example, the unfunded general fund maintenance reserve needs on June 30, 1998, and June 30, 1999, were $219.1 million and $381.6 million, respectively. This gap is due primarily to the aging of state facilities, inflation, and general fund budget constraints.

Legal mandates

In addition to the general wear and tear affecting all facilities, a number of state and federal mandates for correcting threats to life and health compel capital improvements to be made at many state facilities. Examples of legal mandates impacting on the state's capital outlay needs are the remediation of leaking underground storage tanks, asbestos and lead abatement, compliance with air pollution standards, and the phasing out of certain gases used in refrigeration. Many of these environmental mandates will require building and site renovations and repairs.

Another federal mandate that has required renovations in state facilities is the Americans with Disabilities Act of 1990. This legislation requires that "programs and services be accessible in a dignified manner" to handicapped people. While the act does not mandate building alterations or construction of new facilities, changes that are "readily achievable" must be made as soon as practicable.

Environmental issues

Recent environmental legislation has also resulted in the need to renovate building systems and infrastructures. Specifically, the ban on the use of chlorofluorocarbons (CFC's), a commonly used refrigerant whose production was banned after 1995, necessitates renovations to air conditioning systems in order to comply with the legislation. Continued renovations of boiler plants will be needed to comply with the Clean Air Act. Likewise, underground storage tanks must be replaced or upgraded to comply with regulations issued by the Environmental Protection Agency. Finally, renovations will be required to address recent regulations issued by the Department of Labor and the Occupational Safety and Health Administration concerning limits on exposure to asbestos and lead.

Asbestos abatement. The state has taken a comprehensive approach to identifying the total need, setting priorities for addressing the need, and appropriating dollars to make the necessary improvements to eliminate the problem. The United States Environmental Protection Agency Asbestos Hazard Emergency Response Act (AHERA) of 1986 required the Environmental Protection Agency (EPA) to establish a method for local education agencies to manage asbestos containing materials. This evolved into an EPA mandate for an asbestos management plan from each school agency.

In response to this federal mandate, Virginia's Department of General Services (DGS) contracted with Hall-Kimbrell in 1988 to survey all state facilities to determine the state's total asbestos abatement requirements. The Commonwealth has funded asbestos abatement in two ways. Central capital outlay appropriation accounts have been established to eliminate immediate threats to life and health related to asbestos hazards. Priority for the use of these funds has been given to correcting asbestos hazards encountered during ongoing renovation projects. In addition to the central capital appropriations, funding has been provided in stand-alone capital projects to abate asbestos.

Underground storage tanks. The state has also taken a comprehensive approach to the replacement of underground storage tanks and the removal of leaking tanks. As a result of the passage of the Clean Air Act of 1990, the EPA promulgated regulations for owners and operators of underground storage tanks that mandated leak detection for all tanks used to store either petroleum or certain hazardous chemicals on a

phased basis depending upon the age of the tank. Tanks installed after December 1988 must meet the requirements for correct installation, spill and overfill prevention, and corrosion and leak detection. Tanks installed before December 1988 must only meet requirements for corrosion protection, spill and overfill prevention, and leak detection. However, the older tanks must be pressure tested annually and replaced if found not to be tight. All older tanks had to be rebuilt to the new construction standards no later than December 23, 1998, or replaced. Tanks not meeting the new standards on December 24, 1998, had to be closed.

The 1991 General Assembly directed DGS, in conjunction with the State Water Control Board (SWCB) and the Department of Planning and Budget (DPB), to assess the cost of bringing state-owned tanks into compliance with the EPA regulations. Central capital outlay appropriations have also been made available to replace underground storage tanks. In many cases, tank replacement is cheaper than conducting the required tightness testing. Funding is based upon priorities and criteria developed by DGS and DPB.

Other environmental issues. Other statewide environmental issues impacting on capital needs are air emission standards, lead-based paint, and the elimination of certain gases used in refrigeration. The state's approach to new air emissions standards provides a good case study.

Regulations established pursuant to the Virginia Air Pollution Control Law and the federal Clean Air Act require all large power plants to obtain operating permits from the Department of Environmental Quality. These permits establish limits on the rate at which certain pollutants may be emitted. Fines may be assessed on agencies that exceed the limits. Many existing facilities have been found to require new monitoring equipment and additional pollution control equipment to satisfy permit requirements. In some cases, such improvements result in the need for additional staff to operate the equipment.

In some cases, the cost of updating large, antiquated power plants to meet environmental standards is more expensive than replacing the equipment with a different fuel source, such as gas. Presently, this issue has been addressed on an ad hoc basis. To illustrate, the Department of Mental Health, Mental Retardation and Substance Abuse Services (DMHMRSAS) recently completed a system-wide review of its power plants to analyze the feasibility of converting coal-fired plants to a different fuel source. The department recently completed projects at four facilities which replaced coal fired boilers with dual gas/oil fired units. Further evaluations also resulted in the replacement of non-coal fired boilers for greater efficiency and reduced emissions at two facilities. A study is currently underway to evaluate the feasibility of replacing the last coal fired units within the DMHMRSAS system.

Handicapped access

In 1990, Congress passed the Americans with Disabilities Act (ADA) which prohibits discrimination against persons with disabilities. The ADA is civil rights legislation designed to improve access to jobs and workplaces and covers services and programs of public entities. While the act requires that programs and services be accessible in a dignified manner, it does not mandate building alteration, construction of new facilities, or require that an entire facility be accessible.

To comply with the act, each agency had to evaluate facilities, equipment, and access to programs or services and develop a transition plan setting forth the steps needed for program accessibility. This review has been a "bottom-up" effort in the Commonwealth, with the agencies making the tradeoff decisions to enable the programs and services to be accessible. Those changes that are "readily achievable," or non-structural, should have been completed by January 26, 1992. "Readily achievable" could mean altering the facility, redesigning equipment, moving the program or service, or providing aids to make it accessible. The remaining structural changes had to be made as soon as practicable but within three years, or by January 26, 1995.

State agency compliance with the ADA remains an ongoing effort with alterations and modifications being made from operating funds, maintenance reserve appropriations, and central capital appropriations. Where possible and practical, agencies have been encouraged to accomplish handicapped access renovations in conjunction with other planned renovation projects. Failure of a state or local government agency to comply with the ADA could result in termination of federal funding support and monetary damages and

litigation costs.

To facilitate state agencies' ongoing efforts to comply with the ADA, the Department of General Services recently hired an architectural and engineering firm to examine the physical and sensory accessibility of state-owned buildings located in the Capitol Square complex. This study, which involved an extensive survey of the state's 27 buildings, parking decks, and parking lots, documented the location of all non-compliant items and provided cost estimates for correcting those items.

Technology infrastructure

Technology infrastructure creates the connections between agencies' telephone networks and computer systems. Technology infrastructure, which transmits computer data over telephone lines, moves information quickly to the people who need it. Teleconferences save time and travel costs by replacing face-to-face meetings. Electronic classrooms use telephones, fax machines, the public broadcasting microwave network, and communications satellites to reach high school and college students across Virginia and throughout the nation.

Technology infrastructure projects can:

> Provide high-speed switched digital services that will support voice, data, and video transmissions to all parts of the Commonwealth;

> Build a state-local information highway that will consolidate state agencies' individual voice and data lines to field offices and local governments;

> Fund the concept of a statewide electronic academy, such as TELETECHNET, located at Old Dominion University;

> Develop interactive service kiosks where Virginians could register vehicles, make state park reservations, and obtain hunting and fishing licenses; and

> Link the state office buildings in the Capitol Square complex through a high speed fiber optics network.

Technology now permits the use of a universal wiring system to interconnect voice and many common data communication systems. Such systems are becoming a more dominant factor in facilities planning. The concept of a "smart" building can have even greater implications for college and university space than it has for administrative or office buildings.

The facility considerations that result from these trends are increasingly apparent. State government must adapt its physical facilities to accommodate this technology infrastructure. Buildings need cable or wiring networks which connect computers, voice, and data transmission. A universal cabling system, which uses industry standards and accepted practices, can link technology within an agency and can connect agencies to one another and to localities. Existing electrical and cooling systems often need to be updated to accommodate the increasing use of personal computers, modems, fax machines, and telecommunications devices.

A planned technology infrastructure can help state government make the best use of its considerable investment in personal, mini- and mainframe computers, telecommunications equipment and services, and video transmission capacity. How the Commonwealth deals with technology infrastructure in the next six years will influence significantly the scope, quality, and cost of government services into the next century.

Currently, technology infrastructure projects are supported in the operating and capital budgets. Individual agencies generally treat computers and computer networks, fax machines, and telephone systems like other equipment: they are funded through operating budgets. Operating funds also may pay for the wiring needed to connect these devices and networks. This "pay-as-you-go" approach sometimes leads to haphazard results. The projects may not conform to wiring and information system guidelines issued by the state's Department of Technology Planning (DTP). Also, agencies may choose to limit their work, either due

to lack of funds or because they do not believe they will occupy the space long enough to recoup their investment.

Treating technology infrastructure, especially wiring and cabling, as capital projects has several benefits. Where debt service is used, the cost is spread over its useful life. Infrastructure technology capital projects can undergo a review to ensure that the investment conforms to DTP's wiring guidelines. Projects can be designed to handle long-term needs and to be flexible enough to accommodate changes in space uses.

Technological enhancements are also occurring in the area of energy. New energy saving technologies should be evaluated and assessed for incorporation in the design of new and renovation of existing facilities. Emerging technologies such as fiber optic lighting systems and daylighting, ice storage systems for cooling, geothermal heat pumps, and cogeneration of electricity, have the potential for significant operating cost savings and building environment improvement.

Because there are many more capital project funding requests than there are funds available, agencies are asked to identify energy savings projects, which can be candidates for the energy lease component of the Master Equipment Lease Program (MELP). Lease financing can significantly reduce the backlog of needed facility upgrades, while reducing an agency's annual operating costs for heating and cooling, lighting, and domestic hot water generation.

Financing for energy projects under the existing MELP program was established in 1997 to provide state agencies with a source of funds for certain energy efficiency improvements, including the services and equipment required for project development, design, installation, and long term monitoring. Project funding is procured through a master lease, jointly held by the Commonwealth and a private lender. Agencies can lease (i.e., borrow) a minimum of $10,000 and make repayments over three to seven year terms. Agencies own the improvements at the end of the lease term. Proposals for energy projects can be submitted at any time during the year.

Energy projects, to be considered cost effective and appropriate for lease financing, must be technically viable and have the potential for energy savings (energy use reductions which save sufficient utility and fuel dollars to pay for the retrofit within a maximum 7-year lease term). Cost effective energy projects can include improvements to electrical systems, lighting and auxiliary systems, heating, ventilating, and air conditioning (HVAC) systems, building envelope, and the services relating to the analysis, design, installation, and monitoring of these projects.

Trends and conditions impacting on specific systems

This section describes trends and conditions impacting on the following areas of state government:

- Higher education;
- Public safety;
- Transportation;
- State parks and natural areas;
- Facilities for the mentally and physically disabled;
- Economic development; and
- General government.

Higher education

Virginia's system of publicly-supported higher education consists of 17 colleges and universities including six doctoral granting research institutions, nine comprehensive four-year colleges, a junior college, and 23 community colleges on 38 campuses across the Commonwealth. Over 85 percent of all students attending college in Virginia are enrolled in our state-supported institutions. Over the past 10 years, Virginia's state-supported colleges and universities awarded over 400,000 degrees in the two-year, undergraduate, graduate, and professional programs.

The 1998-2000 biennium was a banner year for higher education capital outlay. The budget provided $260.4 million in funding from the general fund to address many high-priority capital needs in higher education, representing the largest influx of direct general fund support for capital outlay over the last decade. In addition, another $54.2 million was provided to address deferred maintenance needs on college campuses.

The majority of capital outlay projects recommended for funding in the 2000-2002 biennium fall into three areas: health and life safety, infrastructure improvements to extend the useful life of existing facilities, and deferred maintenance. In addition, $12.7 million in general funds is provided to restore equipment funding, eliminated by the 1998 General Assembly, from previously approved capital projects. This funding will allow institutions to purchase the equipment and furnishings to complete the projects as originally planned.

Health and life safety. Some Educational and General (E&G) buildings on Virginia's state-supported campuses do not meet the requirements set forth in the Virginia Uniform Statewide Building Code. Several buildings have been brought into compliance, as funding has become available either through maintenance reserve or operating budget appropriations. However, other upgrades remain to be addressed.

Funds provided in 2000-2002 will address various deficiencies that exist in buildings with respect to life safety issues, which include installing and/or upgrading fire protection systems, fire warning systems, and emergency lighting. Recommended funding will bring many higher education facilities into compliance with state and federal law and prevent life safety hazards for students, employees, and visitors to the institutions.

Infrastructure deficiencies. Several E&G facilities at institutions of higher education throughout the Commonwealth require funding to address infrastructure deficiencies. Many

institutions have buildings that were originally constructed in the early to middle 1900s; and several of these buildings have major infrastructure needs.

For the 2000-2002 biennium, 20 projects met the criteria for infrastructure and received support to address these critical needs. The deficiencies that must be addressed in these facilities include sewer system repairs, electrical support systems, HVAC, computer and communications systems, chiller replacement, fire suppression systems, and steam tunnel repairs. Such renovations will reduce costs related to constant repair and maintenance and prolong the useful life of the facilities.

Deferred maintenance. The Governor's budget includes $68.1 million in general fund support to address deferred maintenance needs at our institutions of higher education. The funding provided in the 2000-2002 biennium represents a 15 percent increase in maintenance reserve over the prior biennium.

Corrections

Virginia's correctional system consists of four state agencies -- the Department of Corrections (DOC), the Department of Juvenile Justice (DJJ), the Virginia Parole Board, and the Department of Correctional Education -- as well as local correctional facilities and programs. The DOC, DJJ, and local correctional facilities have major capital needs.

The DOC houses adult felons sentenced to more than one year and provides them with employment, counseling, and therapy programs. It also supervises offenders when they are released into the community, and provides funds for local jail construction and alternatives to incarceration programs.

The DJJ houses juveniles committed to its custody and treats those that have drug, emotional, or other problems. It also supervises youths on probation and provides funds for construction and operation of local group home and detention centers, as well as local delinquency prevention activities.

Local correctional programs include both adult and juvenile facilities. The adult facilities house persons awaiting trial, local ordinance violators, misdemeanants, and felons not housed by DOC. Some also house federal prisoners and, under strict terms and time limitations, occasionally juveniles. The *Code of Virginia* mandates that DOC must house all adults sentenced to more than one year; all others are to be housed in local correctional facilities.

Local juvenile correctional facilities include juvenile detention centers and group homes. Detention centers house pre-dispositional juveniles and those that the court does not feel need to be committed to DJJ. Local juvenile group homes house those that the court feels do not require secure confinement but should not be returned to their home.

Over the last several years, the state has used Virginia Public Building Authority (VPBA) bond financing to cover construction and equipment costs associated with new prisons and new buildings within the correctional system. From 1988 to the present, $759.2 million in bonds have been authorized for construction and $40 million for equipment to operate the new prisons and juvenile correctional centers. In addition, the state has committed to the lease-purchase of two correctional facilities financed through local development authority bonds, amounting to $118.6 million.

Annually, state and local inmate populations are forecast to guide plans for additional capital and operating resource needs. The current forecast of the inmate population is presented in Table 7 on the following page.

Figure 7

1999 Virginia Inmate Population Forecast

Fiscal Year	State Responsible Forecast	% Growth	Local Responsible Forecast	% Growth
2000	32,077		15,555	
2001 32,607	1.65	16,257	4.51	
2002	32,791	0.56	16,787	3.26
2003	32,839	0.15	17,352	3.37
2004	32,992	0.47	17,884	3.07
2005	33,388	1.20	18,519	3.55
2006	33,789	1.20	19,176	3.55
2007	34,194	1.20	19,857	3.55

Source: Secretary of Public Safety

There are two primary, albeit countervailing, trends which affect correctional facilities' populations and, consequently, the need for additional facilities. One of these factors is the overall decrease in recent crime rates and a resulting decrease in prison population projections. The other is the recent policy changes by the Commonwealth to abolish parole and to increase the sentences for violent crimes.

In the late 1980s, violent crimes increased dramatically. These increases resulted in significantly overcrowded correctional facilities. The state responded by undertaking a major building program of state prisons and local jails.

Other factors contributed to the need for additional facilities. In response to public demand that violent criminals be incarcerated for longer periods, discretionary parole rates for persons already in prison were dramatically reduced from 42 percent in FY 1992 to about 6.5 percent in FY 1999. More significantly, the General Assembly enacted legislation effectively abolishing parole for crimes committed after January 1, 1995, and significantly increasing the sentences for violent crimes. All of these factors contributed to the projections of large increases in future prison and jail populations and the need for additional beds.

In contrast to these pressures, crime rates have dropped recently, especially index crimes, the most serious category. This decrease has occurred nationwide, as well as in Virginia. There is no consensus among experts as to the cause for the decrease. Nor is there consensus as to whether it is a temporary aberration in the crime rate before it returns to higher levels. Nevertheless, the decrease has resulted in a downward revision of the projected number of beds needed in the foreseeable future.

Given the state's active prison construction program over the last 10 years, it will not need to add additional prison beds for several years. As prison populations grow more slowly because of the decreased crime rates, attention will be shifted to other areas of capital needs—primarily renovating older facilities and replacing deteriorating, inefficient facilities with new ones that have significantly lower operating costs.

Transportation

A modern transportation system is one of the essential components of a state's infrastructure. The ease with which people and goods can move from place to place is a key ingredient in determining the character and well being of a community. Highways, mass transit, ports, and airports comprise the transportation infrastructure supported in the state's budget.

The Virginia Department of Transportation (VDOT) builds and maintains roads, bridges, and tunnels. It also operates toll roads and ferries. In FY 2000, the state will allocate approximately $2.4 billion to build and maintain its highway system. Over the next six years, FY 2000 through FY 2005, VDOT anticipates spending in excess of $7.3 billion on highway construction.

Maintaining over 56,000 miles of roads and over 20,000 bridges and culverts in the state highway system is a major activity of VDOT and constitutes a significant portion of the agency's operating budget. State law directs VDOT to give precedence to maintenance needs. The six-year improvement plan projects a total expenditure of over $6.2 billion for maintenance.

The pressures on Virginia's highway system come from several sources. For example, there are more people driving more miles. The population increases alone would result in more motor vehicles on the highways, but there has also been a disproportionate increase in the number of vehicles using the roads. In 1960, there were 1.5 million registered vehicles in the Commonwealth, or 0.39 vehicles per person. This ratio increased to 0.55 vehicles per person in 1970, and 0.81 in 1990. Today, there are approximately 6 million vehicles registered in the state. The inevitable result of significant increases in people and vehicles has been a large increase in the amount of highway travel, both automobile and truck traffic. This increased usage requires a continuing need for more and improved roads.

State parks and natural areas

Attendance at state parks continues to increase. Since 1993, attendance has grown from less than 4.2 million to over 5.5 million visitors annually, an increase of over 30 percent. Growth in visitorship is expected to continue as a direct result of the Commonwealth of Virginia Park and Recreational Facilities Bond Act of 1992. New parks and natural areas have been purchased and are opening to the public. Additionally, new facilities such as cabins, contact stations, picnic shelters, ranger residences, and amphitheaters have been constructed at existing parks. Through proceeds from the Bond, infrastructure improvements are being made and existing facilities are being upgraded.

These new and improved parks, natural areas, and facilities bring with them the need for additional maintenance requirements. New facilities will now require preventative maintenance and maintenance reserve funding. Increased attendance will put added demands on infrastructure and facilities. In order to preserve the investment that Virginian’s have made in their state park system, a commitment must be made to maintaining these properties in proper working fashion.

Facilities for the mentally and physically disabled

Virginia’s public mental health and mental retardation system is comprised of nine mental health facilities, one medical center, and five training centers that serve people with mental retardation. The physical plant is made up of approximately 400 buildings and structures, totaling about six million square feet. These facilities are located on approximately 4,800 acres of land and are supported by about 103 miles of paved roads and parking areas.

Unlike other areas of state government, there has been a policy swing from providing mental health and mental retardation services in residential facilities to providing such services in community settings. Excluding forensic patients, there is a continuing decline in the need for inpatient beds at state mental health and mental retardation facilities. This trend is expected to continue into the next century.

This trend has been recognized by the Governor’s Commission on Community Services and Inpatient Care, which has recommended the establishment of a revolving trust fund, created from the proceeds of sales

of surplus land at state-owned mental health and mental retardation facilities. Initially, this fund will be used to transition facility clients to alternate treatment settings, as restructuring occurs. Upon completion of facility restructuring plans, funds will be made available to fulfill unmet needs within the state mental health and mental retardation system.

In the interim, capital renovations will still be necessary at those facilities not targeted for restructuring. Some of these capital projects will be mandated by federal requirements. Overall, the capital projects in the six-year plan will enable the state mental health and mental retardation system to maintain operations at existing facilities and improve service delivery.

For instance, one of the state's facilities for the physically disabled is the Woodrow Wilson Rehabilitation Center in Fishersville. It consists of 24 buildings and provides essential vocational rehabilitation activities to over 2,400 Virginians annually. The Governor has recognized the delay in many projects due to asbestos and has provided funding to address this need. Although these facilities remain safe for the public to use, critical shortfalls in handicapped accessibility, structural deficiencies, and infrastructure will need to be addressed in future biennia.

Economic development

State government has long been involved in facilitating economic growth in the private sector. Key investments in infrastructure and services help determine the competitiveness of Virginia industry and, in turn, the social and economic well being of its citizens.

Global competition is increasing dramatically as more of the world opens to free trade. The emergence of developing markets threatens many workers and firms but also presents great opportunities for those firms who remain competitive and are able to take advantage of the possibilities those new markets present.

The sources of competitive advantage and wealth creation have shifted away from low-wage labor and abundant natural resources. Increasingly, prosperity is being generated by firms using advanced skills and knowledge to innovate, to add value to products, and to increase productivity. Flexibility, specialization, superior customer service, high quality, and the ability to respond quickly to changing market and technology conditions are the hallmarks of today's competitive and high-paying firms.

To be high performance producers, firms need high performance resources, infrastructure, and public services. The state must take a leading role in creating the "economic foundations" upon which industry, and thus the general citizenry, can prosper. Economists have suggested that among the most important of these foundations are:

> **Skilled, adaptive, and innovative human resources.** The state's investment in education at all levels will, of course, continue to be critical. Also, increasing competition and rapid technological change are forcing workers and management to continue their education throughout their careers. This will increase the need for "lifelong learning" and "distance learning" programs and facilities. Advances in satellite and fiber-based communications are making it possible to broadcast interactive courses, seminars, and workshops statewide.

> **Advanced physical infrastructure.** Basic and advanced transportation, water, energy, waste disposal, and advanced communication systems are essential for a high-productivity economy.

> **Accessible technology.** Select investments in the state's research and development infrastructure are needed to ensure that industry has access to high-quality science and technology resources for use in developing products and services and improving production processes.

> **High quality of life.** Strong basic community health and social services and distinctive amenities, such as parks and museums, are attractive to residents and outside visitors and investors and clearly facilitate economic growth over time.

The role of state government in developing the type of infrastructure discussed in this section is evolving.

Also, important investments in programs and facilities are being made through operating funds used for defense conversion, industrial modernization, and workforce training.

The Commonwealth will not be the sole source of funds for these projects. New relationships and new roles will be required. The state will likely be a partner with business, non-profit organizations, and local and regional groups and authorities. Over the next few years, new and creative financial arrangements will be required. However, the Commonwealth must take the lead in setting priorities for the critical investments that will help Virginia prosper in the next century.

General government

DGS is charged through §2.1-481 of the *Code of Virginia* with the care of all buildings, grounds, and all other property at the seat of government not placed in the charge of others. Section 2.1-489 of the Code specifies that DGS is to direct and control the execution of all authorized construction and improvement projects in or adjacent to the City of Richmond.

In carrying out this portion of its statutory responsibilities, DGS oversees the management of 58 buildings and other structures at the seat of government. These buildings total approximately five million square feet and house about 6,000 state employees from 70 agencies. Each of these buildings is unique and ranges in age from the historic 1789 State Capitol and the 1813 Executive Mansion to the recently completed Library of Virginia, which opened to the public in 1997. The medium age of the buildings at the seat of government is 79 years. Several of these buildings have been declared historic buildings and are listed in the Virginia Landmarks Register and the National Register of Historic Places.

Not only are the buildings at the seat of government aging, they are heavily used. Many of the agencies in these buildings potentially receive 150 to 500 visitors daily. The age of the buildings and their high volume usage contribute to their general wear-and-tear. In addition, as buildings age, major mechanical, heating and ventilation, and electrical systems and other components such as roofs exceed their useful life expectancy and must have major repairs or be replaced.